UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/828,022	04/06/2001	Joe Depaolantonio	CSCO-3809	6438

7590   01/20/2004

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EXAMINER
TAYLOR, BARRY W

ART UNIT	PAPER NUMBER
2643	

DATE MAILED: 01/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

Office Action Summary	Application No.	Applicant(s)
	09/828,022	DEPAOLANTONIO, JOE
	Examiner	Art Unit
	Barry W Taylor	2643

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>31 October 2003</u>.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-37* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-37* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

    a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .

4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1.   Claims 1-17, 26-29 and 31 are rejected under 35 U.S.C. 102(e) as being

anticipated by Cowan et al (6,115,743 hereinafter Cowan).

Regarding claims 1, 12, 17, 26 and 31 Cowan teaches an automated network

communication device audit tool method (Title, abstract) comprising:

gathering communication device information (abstract, col. 2 lines 11-67, col. 3

line 64 – col. 5 line 56, col. 6 lines 30-67, col. 7 lines 1-10, col. 9 line 48 – col. 10 line

22, col. 10 line 65 – col. 11 line 58, col. 12 line 9 – col. 13 line 54, col. 14 line 29 – col.

15 line 9, col. 16 lines 26-47) automatically (see figure 2 and columns 5-16 especially

column 10 lines 58-64);

parsing the gathered communication device information (col. 1 lines 30-35, col. 2

lines 44-58, col. 3 line 64 – col. 4 line 11, col. 5 lines 49-60, col. 6 lines 30-35, col. 7

lines 1-10, col. 9 lines 23-67, columns 14-16), including identifying portions of the

communication device information and correlating the portions of the communication

device information to an operation or characteristic of a network communications device
(figures 11 and 16, col. 10 lines 12-22, col. 12 lines 33-46, col. 13 lines 18-32);

determining if additional communication device information is required (col. 2 line
59 – col. 3 line 3, col. 6 lines 36-67, col. 11 lines 36-67, col. 13 line 65 – col. 14 line 28);

analyzing the characteristic and operations of the network communication device
(abstract, col. 2 lines 11-67, col. 3 line 64 – col. 5 line 56, col. 6 lines 30-67, col. 7 lines
1-10, col. 9 line 48 – col. 10 line 22, col. 10 line 65 – col. 11 line 58, col. 12 line 9 – col.
13 line 54, col. 14 line 29 – col. 15 line 9, col. 16 lines 26-47); and

reporting the communication device information (abstract, col. 2 lines 11-67, col.
3 line 64 – col. 5 line 56, col. 6 lines 30-67, col. 7 lines 1-10, col. 9 line 48 – col. 10 line
22, col. 10 line 65 – col. 11 line 58, col. 12 line 9 – col. 13 line 54, col. 14 line 29 – col.
15 line 9, col. 16 lines 26-47) in a convenient format including identification of problems
(figure 11).

Regarding claim 2. Cowan teaches retrieving information regarding the device
and status of device (col. 2 lines 22-58, col. 5 lines 20-56).

Regarding claims 3 and 27. Cowan teaches automatically queries device (col.
12 line 64 – col. 13 line 7, col. 14 line 61 – col. 15 line 9, col. 15 line 55 – col. 16 line
47).

Regarding claims 4 and 28. Cowan teaches telecommunication networks
including fiber transmission systems (col. 1 lines 10-22).

Regarding claims 5 and 29. Cowan teaches constructing the queries by issuing protocol commands formatted in the appropriate syntax for the communication device (col. 4 line 61 – col. 5 line 19).

Regarding claim 6. Cowan teaches analyzing the performance of the communication device (figure 11, col. 13 lines 8-12).

Regarding claim 7. Cowan teaches correlating the device with characteristic data (figures 11 and 16, col. 10 lines 12-22, col. 12 lines 33-46, col. 13 lines 18-32).

Regarding claims 8-11. Cowan teaches wherein the characteristic of device is a configuration, performance or functionality characteristic (abstract, col. 2 lines 11-67, col. 3 line 64 – col. 5 line 56, col. 6 lines 30-67, col. 7 lines 1-10, col. 9 line 48 – col. 10 line 22, col. 10 line 65 – col. 11 line 58, col. 12 line 9 – col. 13 line 54, col. 14 line 29 – col. 15 line 9, col. 16 lines 26-47, figures 11 and 16).

Regarding claim 13. Cowan teaches wherein device audit information includes device configuration information (figure 16), performance level information (figure 16), and identification parameters that do not meet threshold levels (see fault analysis component 416 figure 4, col. 10 lines 12-22, col. 10 line 65 – col. 11 line 67, columns 12-16).

Regarding claim 14. Cowan teaches wherein the network communication device audit information includes a network communication device audit report that has the same user friendly look and feel for a variety of devices across different architectures and is organized in a manner that facilitates network management and maintenance (figure 11, col. 4 line 61 – col. 5 line 19).

Regarding claim 15. Cowan teaches wherein the network communication device audit report presents information associated with different areas of network management impact (col. 7 lines 1-10, col. 10 lines 12-22, col. 10 line 65 – col. 11 line 65, col. 12 lines 33-67, columns 13-16).

Regarding claim 16. Cowan teaches wherein areas of network management impact areas includes fault management, performance management, capacity management, and configuration management (abstract, col. 2 lines 11-67, col. 3 line 64 – col. 5 line 56, col. 6 lines 30-67, col. 7 lines 1-10, col. 9 line 48 – col. 10 line 22, col. 10 line 65 – col. 11 line 58, col. 12 line 9 – col. 13 line 54, col. 14 line 29 – col. 15 line 9, col. 16 lines 26-47, figures 11 and 16).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2.   Claims 18-25, 30 and 32-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cowan et al (6,115,743 hereinafter Cowan) in view of Tonelli et al (6,229,540 hereinafter Tonelli).

Regarding claims 18-23 and 32-36. Cowan does not explicitly show using net rules.

Tonelli teaches a method for designing networks including auditing a network to discover a present network configuration, creating a network design sheet from the discovered network configuration, placing device icons representing intelligent device objects on the network design sheet, selecting a media type representing an intelligent media object, and connection the media type to a first one of the devices icons and validating the connection to the fires one of the device icons (Title, abstract). Tonelli discloses each element has its own behavioral characteristics and likely comes from a different vender and systems made up of these elements experience change or encounter problems (i.e. congestion, circuit failure, or component degradation) and overall effects can range from a minor slowdown to complete collapse (see Background). Tonelli provides a software implemented method for auditing a network by using more than one soft probes to discover topology, host and interface information on devices in the network. The auditing includes gathering the data with soft probes that include a Simple Network Management Protocol (SNMP) probe and a Novell IPX probe. The core data set discovered by an audit includes addresses, system identifications, name and description, of network components (columns 1-24). Tonelli discloses that through rules engine, the design software validates a network design at several levels. Tonelli discloses that validation prevents the user from making invalid connections and, where possible, assists the user in completing intermediate configurations that make otherwise invalid connections valid (column 4). Tonelli discloses the network design software identifies the mismatch and assists the user in configuring a solution (col. 4 lines 60-67). Tonelli discloses the network designs

software validates to conformance to standards (bottom column 4) and cable segment length in a local area network and total distance of an FDDI ring are checked against maximums set by the standard, and for Ethernet network, the network design software checks repeater density, cable length, and looks for loops in the topology. Tonelli discloses that device icons correspond to intelligent objects built from templates wherein templates define rules for object instantiation such that each instantiation accurately reflects the characteristics of the corresponding network device (columns 5-6). In accordance with the manufacturer's specifications, the device objects model the functionality of the corresponding network devices, including physical properties, port and slot types, available adapter card options and asset management. For example, Cisco AGS+ multi-protocol router object behaves like the real AGS+ (column 7), including the CBUS/Multibus dual bus scheme and the multiple protocols found on its adaptor cards. As another example, the Cabletron MMAC-5 hub object includes the correct number of FNBMGT and FNBMM bus slots and two embedded console ports and device objects may also include technical notes and photographs of the corresponding device (columns 7-22).

Therefore, it would have been obvious for any one of ordinary skill in the art at the time of the invention to modify the graphical user interface as taught by Cowan to include device icons and rules engine software as taught by Tonelli so that audit tool may interact with different cards manufactured by different venders such as Cisco or Cabletron as taught by Tonelli.

Regarding claim 24. Cowan teaches the audit tool identifies potential causes of
problems (abstract, col. 2 lines 11-67, col. 3 line 64 – col. 5 line 56, col. 6 lines 30-67,
col. 7 lines 1-10, col. 9 line 48 – col. 10 line 22, col. 10 line 65 – col. 11 line 58, col. 12
line 9 – col. 13 line 54, col. 14 line 29 – col. 15 line 9, col. 16 lines 26-47, figure 11).

Regarding claims 25, 30 and 37. Cowan does not explicitly show providing a
suggested corrective course of action for a problem.

Tonelli teaches a method for designing networks including auditing a network to
discover a present network configuration, creating a network design sheet from the
discovered network configuration, placing device icons representing intelligent device
objects on the network design sheet, selecting a media type representing an intelligent
media object, and connection the media type to a first one of the devices icons and
validating the connection to the fires one of the device icons (Title, abstract). Tonelli
discloses each element has its own behavioral characteristics and likely comes from a
different vender and systems made up of these elements experience change or
encounter problems (i.e. congestion, circuit failure, or component degradation) and
overall effects can range from a minor slowdown to complete collapse (see
Background). Tonelli provides a software implemented method for auditing a network
by using more than one soft probes to discover topology, host and interface information
on devices in the network. The auditing includes gathering the data with soft probes
that include a Simple Network Management Protocol (SNMP) probe and a Novell IPX
probe. The core data set discovered by an audit includes addresses, system
identifications, name and description, of network components (columns 1-24). Tonelli

discloses that through rules engine, the design software validates a network design at

several levels. Tonelli discloses that validation prevents the user from making invalid

connections and, where possible, assists the user in completing intermediate

configurations that make otherwise invalid connections valid (column 4). Tonelli

discloses the network design software identifies the mismatch and assists the user in

configuring a solution (col. 4 lines 60-67). Tonelli discloses the network designs

software validates to conformance to standards (bottom column 4) and cable segment

length in a local area network and total distance of an FDDI ring are checked against

maximums set by the standard, and for Ethernet network, the network design software

checks repeater density, cable length, and looks for loops in the topology. Tonelli

discloses that device icons correspond to intelligent objects built from templates

wherein templates define rules for object instantiation such that each instantiation

accurately reflects the characteristics of the corresponding network device (columns 5-

6). In accordance with the manufacturer's specifications, the device objects model the

functionality of the corresponding network devices, including physical properties, port

and slot types, available adapter card options and asset management. For example,

Cisco AGS+ multi-protocol router object behaves like the real AGS+ (column 7),

including the CBUS/Multibus dual bus scheme and the multiple protocols found on its

adaptor cards. As another example, the Cabletron MMAC-5 hub object includes the

correct number of FNBMGT and FNBMM bus slots and two embedded console ports

and device objects may also include technical notes and photographs of the

corresponding device (columns 7-22).

Therefore, it would have been obvious for any one of ordinary skill in the art at

the time of the invention to modify the graphical user interface as taught by Cowan to

include device icons and rules engine software as taught by Tonelli so that audit tool

may identify mismatches thus preventing the user from making invalid connections as

taught by Tonelli.

Response to Arguments

3.   Applicant's arguments filed 10/31/03 have been fully considered but they are not

persuasive.

a) Regarding Applicant's remarks on page 12 wherein Applicant's contend that

Cowan teaches away from the present claimed gathering of information automatically

by indicating the commands and data are generated manually.

The Examiner disagrees. See background of Cowan wherein manual control

methods of prior art are discussed and Cowan's summary of invention wherein manual

inputs are automated by using a universal graphical interface. Furthermore, if Cowan

teaches away because manual request are required as Applicant's contend, why does

Cowan allow for "unsolicited" alarms to be communicated to the universal graphical

interface (column 5 and column 10) or use an "inference" engine to read in alarm data

from external systems along with network topology data (see figure 2 wherein server

210 gathers information automatically) or update network topology data without human

intervention (see figure 2 wherein server 210 updates topology data 250 without human

intervention) or use internal messages for "automatically" determining if client processes

responds to periodic hello messages. Furthermore, Cowan even allows the user to

configure server 210 enabling for the configured parameters to be "automatically" read

at start-up as well as run-time (column 9 lines 51-62).

b) Applicant's contend that Cowan requires a significant amount of user

intervention (see Applicant's general comment at the top of page 13).

The Examiner disagrees. Cowan reduces manual input (col. 10 line 58 – col. 16

line 47). The Examiner notes that Applicant's invention requires significant manual

input (see Applicant's figures 11A-11B wherein manual commands 1101 and 1111 are

used to "automatically" gather network information and supported in Applicant's detailed

specification starting at the last two lines of page 36) which is similar to Cowan, except

Cowan does not require gathering information in response to request command (i.e. see

Applicant's manual request command generally denoted as

">RTRV_INV::SLOT_ALL:301;" appearing in command line 1101 figure 11A and

appearing in command line 1111 figure 11B). The Examiner agrees in that Cowan

teaches away from long manual input commands by using a universal graphical

interface.

c) Applicant's contend that Cowan fails to teach or suggest parsing the gathered

information (see bottom of page 13).

The Examiner disagrees. See Examiner's rejection listed above wherein Cowan

shows parsing the gathered communication device information (col. 1 lines 30-35, col. 2

lines 44-58, col. 3 line 64 – col. 4 line 11, col. 5 lines 49-60, col. 6 lines 30-35, col. 7

lines 1-10, col. 9 lines 23-67, columns 14-16), including identifying portions of the

communication device information and correlating the portions of the communication

<u>device information to an operation or characteristic of a network communications device</u>

(figures 11 and 16, col. 10 lines 12-22, col. 12 lines 33-46, col. 13 lines 18-32).

d) Regarding Applicant's argument appearing at the bottom of page 14 wherein Applicant's contend that Cowan detects network outages but does not teach analyzing the characteristic and operations of network communication device.

The Examiner respectfully disagrees. Cowan not only allows for component level analysis but port level analysis is discloses as well (see Examiner rejection and response to arguments listed above including Cowan column 10).

e) Regarding Applicant's remark starting on page 15 and continuing to page 16 wherein Applicant's contend that Cowan in view of Tonelli fail to use a set of established net rules.

The Examiner disagrees. Cowan invention allows for alarm data from external systems to be monitored and processed via "inference engines" (see inference engines used in the internal server 210 figure 1) which alone reads on Applicant's general claim language. One of ordinary skill in the art would readily recognize "inference engines" require some sort of "rules" to follow when analyzing collected data. Tonelli not only shows net rules may be used but explicitly list several for "auto-installation". Tonelli even uses net rules to change the color of display notifying user of error and provides user with remedy (column 10 lines 43-64). Tonelli uses net rules to display warning message (columns 11-12).

f) Regarding Applicant's general remark appearing on page 16 wherein Applicant's contend that Cowan does not teach identification of potential causes of problems.

The Examiner disagrees. Cowan uses inference engine to process external alarms and one of ordinary skill in the art of inference engines would readily recognize to display an external alarm to a graphical user interface would require some sort of identification information especially if the alarm was "unsolicited" and "potentially" impacting other telecommunication network infrastructure. In fact, Cowan even monitors trunks between devices (see column 10). Tonelli also teaches rule engine software used to identify potential causes of problems (see col. 4 lines 45-67, col. 6 line 60 – col. 7 line 19, col. 8 line 66 – col. 9 line 67, column 10 lines 43-64, col. 11 lines 41-44). Tonelli even provides user with "help" button when errors are detected (col. 15 lines 10-23, columns 17-19).

g) Applicant's continue to argue the same for dependent claims 25, 30 and 37 (see Applicant's repeated argument starting at the bottom of page 16 and continuing to page 17).

See Examiner's response located directly above.

Conclusion

4.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the mailing date of this final action.

5.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Barry W. Taylor whose telephone number is (703) 305-

4811. The examiner can normally be reached on Monday-Friday from 6:30am to 4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Curtis Kuntz can be reached on (703) 305-4708. The fax phone number for

this Group is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or

proceeding should be directed to Technology Center 2600 customer service Office

whose telephone number is (703) 306-0377.

SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600